

**REMARKS**

Claims 1, 2, and 4-20 are pending in this application. Claim 1 is the sole independent claim. Claim 3 is cancelled without prejudice or disclaimer, and claims 1, 4 and 6 are amended. No new matter is added.

**Allowable Subject Matter**

Claims 6-16, 19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The allowable subject matter of claim 6 is essentially incorporated into independent claim 1 albeit in a broader recitation (e.g., an impedance transforming reactive element). As such, the pending claims are in condition for allowance.

**Rejections Under 35 U.S.C. §102**

Claims 1 and 2 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 5,828,040 to Risman ("Risman"). This rejection is respectfully traversed.

In rejecting the claims, it is alleged that Risman discloses a rectangular microwave applicator that supports a first evanescent  $TE_{y_{m;1}}$  hybrid mode and a second propagating  $TE_{y_{m-2k;1}}$  hybrid mode. Specifically, it is alleged that Risman discloses an applicator that supports a first evanescent hybrid mode as  $TE_{y31}$  and a second propagating hybrid mode as  $TE_{y11}$  at column 11, line 37. However, there is no disclosure that the  $TE_{y31}$  mode discussed in Risman is evanescent. As such, Risman fails to anticipate the claims and the rejection should be withdrawn.

Although the claims are anticipated by Risman for the reasons discussed above, independent claim 1 is amended to expedite prosecution of the application. Specifically, independent claim 1 is amended to recite that the applicator comprises

two parallel feeding slots arranged in the ceiling of the applicator, connecting the applicator to a feeding waveguide, as previously recited in dependent claim 3.

It is admitted in the Office Action that Risman fails to disclose the additional features of claim 3. In an effort to overcome the deficiencies, it is alleged that one of skill in the art would have modified the applicator of Risman according to the teachings of Staats. Specifically, it is alleged that Staats discloses two parallel slots (i.e., the probe antenna 30 and the tuning probe 35). However, the antenna 30 and probe 35 are not slots in the ceiling of the device, as alleged in the Office Action. Because Staats fails to disclose or suggest two parallel slots arranged in the ceiling of the applicator, the combination of references fails to anticipate the claims. As such, the rejection should be withdrawn.

Moreover, the combination of references fails to disclose or suggest two parallel feeding slots arranged in the ceiling of the applicator, connecting the applicator to a feeding waveguide. Staats describes the antenna 30 as being connected to a coaxial line. For example, Staats recites that a coaxial transmission line from a magnetron 27 has an outer conductor 29 which terminates at the probe antenna 30 (see col. 3, lines 7-14; Fig. 2). The rod 35 is not connected to any microwave feeding device. As such, the alleged slots (antenna and 30 and rod 35) are not connecting the applicator to a waveguide. Because the combination of references fails to disclose or suggest an applicator that comprises two parallel feeding slots arranged in the ceiling of the applicator, connecting the applicator to a feeding waveguide, the rejection should be withdrawn.

In combining the references, it is alleged that it would have been obvious to do so “in order to connect the applicator to a feeding waveguide.” However, as Staats fails to disclose two parallel slots in the ceiling of the device or that the antenna and rod are connected to a waveguide, Applicants submit that the grounds for modifying

Risman do not provide a rational underpinning to support the legal conclusion of obviousness as required.<sup>1</sup> As such, *prima facie* obviousness has not been established and the rejection should be withdrawn.

In addition to the above deficiencies, the combination of references fails to disclose or suggest the additional feature of “an impedance transforming reactive element arranged centrally in the waveguide between the feeding slots,” as recited in amended claim 1.

### **Rejections Under 35 U.S.C. §103**

Claims 3-5, 17 and 18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Risman in view of U.S. Patent 3,843,862 to Staats et al. (“Staats”). As claim 3 is cancelled, the rejection of that claim is moot. The rejection of the remaining claims is respectfully traversed.

Claims 4-5, 17 and 18 are allowable for their dependency on independent claim 1 for the reasons discussed above, as well as for the additional features recited therein. As such, withdrawal of the rejection is requested.

### **CONCLUSION**

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of the pending claims in connection with the present application is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application; the Examiner is respectfully requested to contact the undersigned at the telephone number below.

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<sup>1</sup> *KSR Int'l Co. v. Teleflex Inc.*, **550 U.S. 398** (2007), quoting *In re Kahn*, **441 F.3d 977** (Fed. Cir. 2006)

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. §1.17; particularly, extension of time fees.

Respectfully submitted,

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